

Case report

Videocapsule retention: role of surgical treatment (a case report)

Rachid Boufettal^{1,&}, Yassine Fahmi¹, Saad Rifki Jai¹, Farid Chehab¹

¹General Surgery Department III, UHC Ibn Rochd, Casablanca, Morocco

[&]Corresponding author: Rachid Boufettal, General Surgery Department III, UHC Ibn Rochd, Casablanca, Morocco

Key words: Video capsule, retention, small bowel stenosis, surgical extraction, stricturoplasty

Received: 03/04/2014 - Accepted: 01/03/2015 - Published: 23/09/2015

Abstract

Video capsule endoscopy (VCE) is a safe innovative tool for investigating obscure gastrointestinal diseases. The capsule is usually excreted with faeces within 24-48 h. Retention of capsule rarely occurs, and it usually depends on the indication of VCE. Retention may long remain asymptomatic or manifest as subocclusif syndrome. Acute complications of retention are very rare but can be life-threatening illness. Surgical approach is considered effective to retrieve the retained capsule, treat the pathology responsible and prevent acute complications. We report the case of a 30 years old patient, followed for Crohn's disease. She received during the assessment reviewed by VCE that has been held for three months. The retention caused subocclusif symptoms of which had needed surgically procedure. Treatment consisted of remove the VCE and repair of stenosis of small bowel by stricturoplasty.

Pan African Medical Journal. 2015; 22:64 doi:10.11604/pamj.2015.22.64.4300

This article is available online at: <http://www.panafrican-med-journal.com/content/article/22/64/full/>

© Rachid Boufettal et al. The Pan African Medical Journal - ISSN 1937-8688. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/2.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Introduction

Videocapsule endoscopy (VCE) has become a routine investigative tool in the diagnosis of small bowel diseases. Retention of the VCE is a serious complication of this examination. The retention leads to the occurrence of acute intestinal obstruction or intestinal perforation requiring emergency surgery [1,2]. We report the case of VCE retention on small bowel stenosis due to CROHN disease.

Patient and observation

A 30-year-old woman without medical history had undergoing an exploration by VCE three months ago for digestive symptoms as diffuse abdominal pain, chronic constipation, Iron-deficiency anemia and alteration of general state. The patient has not eliminated the capsule after 48 hours. Plain abdominal radiography showed persistence of VCE (**Figure 1**). Thereafter, the patient began to exhibit repeated subocclusif syndrome. She underwent surgical exploration that showed wall thickening and incomplete strictures at multiple levels of small bowel compatible with ileal Crohn's disease. The VCE was enclosed in stricture located 2 meters from duodenojejunal junction. A longitudinal enterotomy on the stricture with VCE extraction was performed (**Figure 2, Figure 3**). The enterotomy was repaired by stricturoplasty. The postoperative course was uneventful.

Discussion

Capsule retention is defined by the International Conference on Capsule Endoscopy (ICCE) 2005 as having a capsule endoscope remain in the digestive tract for minimum two weeks. Capsule retention is further defined as the capsule remaining in the bowel lumen unless it is recovered medically, endoscopically or surgically [3].

Retention rate of VCE depends mainly on its indications. It goes from 0% in subjects without any gastrointestinal disease to 21% in cases of intestinal obstruction [4]. This rate is 5% in patients suspected Crohn's disease. Liao et al [5], reported 184 cases of retention (1,4%) among 22840 explorations with VCE of which 2,6% occurred on Crohn's disease, 1,2% on obscure gastrointestinal

bleeding and 2,1% on gastrointestinal neoplasm. Furthermore, AINS induced enteropathy, post-operativesthenosis, ischemia and radiation enteritis can occur retention [5,6]. Meckel's diverticulum, peptic ulcer, cryptogenic multifocal stenosing enteritis can rarely be involved with frequencies of less than 2% of total capsule retention. In our patient, there retention occurred probably on crohn's disease [4].

Retention of capsule is mostly asymptomatic. Furthermore, it causes subocclusif symptoms [2,5]. Retention can contribute to etiological diagnosis and the level of obstruction [2]. Some acute complications due to retention of VCE were reported in literature. In a study of 2300 explorations by VCE, six cases have acute intestinal obstruction [1]. One case of intestinal perforation 2 months after par VCE examination for exploration of anemia was reported [7].

The management of capsule retention can undergo expectant, medical and endoscopic procedure or even surgical intervention. Medical treatment is based on anti-inflammatories, colonic preparation or rectal enema [1,8]. Surgery allows not only the extraction of the capsule but can also contribute to treatment of the etiology of retention and prevents its complications [5,7]. The longest duration of retention is reported by Bhattarai et al [9], the capsule was retained on ileorectal anastomosis without complication during 4,5 years and it was successfully removed by endoscopic procedure. Hauser et al [10] reported two cases of VCE retention. In the first case, VCE was located in proximal jejunum and successfully removed by enteroscopy, in the second case; VCE was located in rectum and removed by surgery after failure colonoscopy. Liao et al [5] reported spontaneous elimination or by medical treatment in 15%, by endoscopic procedure in 12% and by surgery in 58,7% of the cases with retention capsule. One death attributed to surgery complication was reported [1]. Our patient underwent surgery extraction with treatment of stenosis by stricturoplasty. The postoperative course was uneventful.

Conclusion

VCE retention is a serious complication this examination. Although rare, we must keep in mind the possibility of an acute complication of retention of the VCE. Surgical treatment must be considered in case of failure of endoscopic extraction and if a cause of retention requires surgery. Surgical treatment allows the extraction of the

capsule, the treatment of the cause and prevents acute complications of retention.

Competing interests

The authors declare no competing interest.

Authors' contributions

All authors read and agreed to the final version of this manuscript and equally contributed to its content and to the management of the case.

Figures

Figure 1: Plain abdominal radiography showing retained videocapsule (arrow)

Figure 2: Photo during surgery showing video capsule extraction by enterotomy

Figure 3: Video capsule after extraction

References

1. Höög CM, Bark LÅ, Arkani J, Gorsetman J, Broström O, Sjöqvist U. Capsule retentions and incomplete capsule endoscopy examinations: an analysis of 2300 examinations. *Gastroenterol Res Pract*. 2012; 2012:518718. **PubMed | Google Scholar**
2. Cheifetz AS, Lewis BS. Capsule endoscopy retention: is it a complication? *J Clin Gastroenterol*. 2006;40(8):688-91. **PubMed | Google Scholar**
3. Cave D, Legnani P, de Franchis R, Lewis BS. ICCE consensus for capsule retention. *Endoscopy*. 2005;37(10):1065-7. **PubMed | Google Scholar**
4. Mata A, Llach J, Bordas JM. Wireless capsule endoscopy. *World J Gastroenterol*. 2008;14(13):1969-71. **PubMed | Google Scholar**
5. Liao Z, Gao R, Xu C, Li ZS. Indications and detection, completion, and retention rates of small-bowel capsule endoscopy: a systematic review. *Gastrointest Endosc*. 2010;71(2):280-6. **PubMed | Google Scholar**
6. Rogers AM, Kuperman E, Puleo FJ, Shope TR. Intestinal obstruction by capsule endoscopy in a patient with radiation enteritis. *JSLs*. 2008;12(1):85-7. **PubMed | Google Scholar**
7. Gonzalez Carro P, Picazo Yuste J, Fernández Díez S, Pérez Roldán F, Roncero García-Escribano O. Intestinal perforation due to retained wireless capsule endoscope. *Endoscopy*. 2005;37(7):684. **PubMed | Google Scholar**
8. Levsky JM, Milikow DL, Rozenblit AM, Wolf EL. Small bowel obstruction due to an impacted endoscopy capsule. *Abdom Imaging*. 2008;33(5):579-81. **PubMed | Google Scholar**
9. Bhattarai M, Bansal P, Khan Y. Longest duration of retention of video capsule: a case report and literature review. *World J Gastrointest Endosc*. 2013;5(7):352-5. **PubMed | Google Scholar**
10. Hauser G, Stimac D, Giljaca V, Mijandrusic Sincic B. Video capsule retention-endoscopic or surgical problem? *Clin Res Hepatol Gastroenterol*. 2012;36(6):e135-6. **PubMed | Google Scholar**



Figure 1: Plain abdominal radiography showing retained videocapsule (arrow)



Figure 2: Photo during surgery showing video capsule extraction by enterotomy



Figure 3: Video capsule after extraction